

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number  
**WO 2005/065146 A2**

(51) International Patent Classification: Not classified

(21) International Application Number:  
PCT/US2004/041407

(22) International Filing Date:  
28 December 2004 (28.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/533,004 29 December 2003 (29.12.2003) US

(71) Applicant (for all designated States except US): **ANIMAS CORPORATION** [US/US]; 200 Lawrence Drive, West Chester, PA 19380 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GETZ, Steven, P.** [US/US]; 236 Paoli Pike, Malvern, PA 19355 (US). **SHIPWAY, Ian, Maxwell** [AU/US]; 671 Georges Lane, Ardmore, PA 19003 (US).

(74) Agent: **ETKOWICZ, Jacques, L.**; RatnerPrestia, P.O. Box 980, Valley Forge, Pa 19482-0980 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS AND SYSTEMS FOR DETECTING AN OCCLUSION

(57) **Abstract:** Systems and methods for detecting an occlusion may include receiving a signal corresponding to a first force needed to deliver a first material through the tube. Furthermore, the systems and methods may include indicating that an occlusion exists if the first force is greater than a baseline value plus a delta value, the baseline value being assigned a value equal to the force necessary to deliver the first material through the tube in an un-occluded state and the delta value being assigned a value configured to create a desired level of sensitivity. Moreover, the systems and methods may include setting, if the first force is less than or equal to the first baseline value plus the delta value, and if a turbulence factor is less than a threshold value, the baseline value equal to a second force. The second force may be a low-pass filtered version of the first force and the turbulence factor may be a low-pass filtered version of the absolute value of the difference between the first force and the second force.



WO 2005/065146 A2